

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY  
Air Quality Division  
1110 West Washington Street • Phoenix, AZ 85007 • Phone: (602) 771-2338

# GENERAL AIR QUALITY CONTROL PERMIT

for

## BOILER(S)

(As required by Title 49, Chapter 3, Article 2, Section 49-426, Arizona Revised Statutes)

*This air quality control permit does not relieve applicant of responsibility for  
meeting all air pollution regulations*



THIS GENERAL PERMIT ISSUED SUBJECT TO THE FOLLOWING Conditions contained in Attachments

“A” and “B”

ADEQ GENERAL PERMIT NUMBER 104 PERMIT CLASS II EXPIRATION DATE June 25, 2009

PERMIT ISSUED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2007

\_\_\_\_\_  
SIGNATURE Nancy C. Wrona, Director, Air Quality Division  
TITLE

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# **AIR QUALITY CONTROL GENERAL PERMIT FOR BOILER(S)**

## **INTRODUCTION**

Owners/operators of boiler facilities may obtain coverage under this General Permit in lieu of an individual permit. Such parties shall do so by obtaining an individual 'Authorization to Operate' (ATO) for each boiler and emergency power internal combustion engine(s), which will attest to their formal agreement to abide by all conditions contained herein.

The applicable requirements governing each permit condition are enclosed in brackets ([...]) and follow each condition heading. References to Pima County Code ([PCC §§17.xx]) applicable requirements are not applicable to sources operating outside Pima County. Material permit conditions are indicated by a single underline and italics pursuant to A.A.C. R18-2-331.

Permittees covered under this General Permit may operate each boiler twenty-four (24) hours in any day. Emergency power internal combustion engine(s) which may operate under this permit are limited to a total of 750 hp and operation is limited to 500 operating hours in any twelve month period per engine. Operating hours shall be defined as the actual cumulative time an internal combustion engine was in use.

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**AIR QUALITY CONTROL GENERAL PERMIT  
FOR BOILER FACILITIES**

**ATTACHMENT “A”: GENERAL PROVISIONS**

**I. GENERAL PERMIT EXPIRATION AND RENEWAL**

[A.R.S. § 49-426.F, A.A.C.R18-2-306.A.1, -505]

- A.** This General Permit is valid for a period of five years from the date of issuance. The Director of ADEQ (Director) shall review and may renew this General Permit every five years from its date of issuance. All Permittee’s Authorizations to Operate (ATOs) shall coincide with the term of this General Permit, regardless of when the individual authorization began during this five year period, except that the Director may require a Permittee authorized to operate under this General Permit to apply for and obtain an individual permit at any time, if the source is not in compliance with the terms and conditions of this General Permit.
- B.** At the time that the public notice is required, pursuant to issuance of the proposed General Permit renewal, the Director shall notify in writing all Permittees who have been granted, or who have applications pending for, ATO(s) under this General Permit. The written notice shall describe the source’s duty to reapply and may include requests for information required under the proposed General Permit.

**II. COMPLIANCE WITH PERMIT CONDITIONS**

[A.A.C.R18-2-306.A.1]

- A.** The Permittee shall comply with all conditions of this General Permit including all applicable requirements of Arizona air quality statutes and the air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action, for ATO termination or revocation, or for denial of a renewal application. In addition, non-compliance with any federally enforceable requirements constitutes a violation of the Clean Air Act.
- B.** It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

**III. GENERAL PERMIT REOPENINGS, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE**

[A.A.C.R18-2-321 and -510]

- A.** The Director may reopen and reissue, or terminate this General Permit at any time if:

  - 1. The Director has determined that the emissions from the sources in the facility class cause or contribute to ambient air quality standards violations which are not adequately addressed by the requirements in this General Permit, or
  - 2. The Director has determined that the terms and conditions of this General Permit no longer meet the requirements of A.R.S. §49-426 and 427.

- B.** The Director shall provide written notice to all sources operating under this General Permit prior to reissuance or termination of this General Permit. Such notice shall include an explanation of the basis for the proposed action. Within 180 days of receipt of the notice of the expiration, termination or cancellation of this General Permit, sources notified shall submit an application to the Director for the appropriate permit.
- C.** The Director may require a source authorized to operate (ATO) under this General Permit to apply for and obtain an individual source permit at any time if:

  - 1. The source is not in compliance with the terms and conditions of this General Permit;
  - 2. The Director has determined that the emissions from the source or facility class are significant contributors to ambient air quality standard violations which are not adequately addressed by the requirements in this General Permit.
  - 3. The Director has information which indicates that the effects on human health and the environment from the sources covered under this General Permit are unacceptable;
  - 4. The Director has reasonable cause to believe that the ATO was obtained by fraud or misrepresentation; or
  - 5. The person applying for an ATO failed to disclose a material fact required by the permit application or the regulations applicable to the ATO of which the applicant had or should have had knowledge at the time the application was submitted.
- D.** If the Director revokes a source's authority to operate under this General Permit, the Director shall notify the Permittee by certified mail, return receipt requested. The notice shall include a statement detailing the grounds for the revocation of authority and a statement that the Permittee is entitled to a hearing. A source previously authorized to operate under this General Permit may operate under the terms of this General Permit until the earlier of the date it submits a complete application for an individual permit, at which time it may operate under that application, or 180 days after receipt of the notice of revocation of authority to operate under this General Permit.

#### **IV. POSTING OF GENERAL PERMIT**

- A.** Any person who has been granted coverage under this General Permit shall post such General Permit or a certificate of General Permit coverage at the location where the equipment is installed in such a manner as to be clearly visible and accessible.
- B.** All equipment covered by this General Permit shall be clearly marked with a serial number or other equipment number that is listed on the ATO for that piece of equipment.
- C.** A copy of the complete General Permit and associated ATO(s) shall be kept on the site.



**V. FEE PAYMENT**

- A.** Permittee shall pay fees to the Director pursuant to A.R.S. §49-426(E) and A.A.C. R18-2-511.

**VI. ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE**

[A.A.C.R18-2-327]

- A.** Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31<sup>st</sup> or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emissions information for the previous calendar year;
- B.** The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

**VII. COMPLIANCE CERTIFICATION**

[A.A.C. R18-2-309]

- A.** Permittee shall submit a compliance certification once each year, which describes the compliance status of the source with respect to each General Permit condition and the methods used for determining the compliance status. The Permittee shall list on the compliance certification all items of equipment issued ATO(s), on site at the time of annual certification. This certification shall be submitted by September 30<sup>th</sup> and shall cover the period from September 1 of the previous year to August 31 of the current year. In addition, this certification shall include a description of any permit deviation.
1. The compliance certification shall include the following:  
[A.A.C. R18-2-309.2.a, -309.2.c & d, and -309.5.a]
  2. Identification of each term or condition of the permit that is the basis of the certification.
  3. Identification of the method or other means used by the Permittee for determining the compliance status with each term and condition during the certification period, and whether the methods or other means provide continuous or intermittent data;
  4. The status of compliance with the terms and conditions of this permit for the period covered by the certification, based on the methods or means designated in Condition VII.B.2 above. The certification shall identify each deviation and take it into account for consideration in the compliance certification.
  5. All instances of deviations from permit requirements reported pursuant to Condition XI.B of this attachment;
  6. Other facts the Director may require to determine the compliance status of the source.

- B.** A progress report on all outstanding compliance schedules shall be submitted every six months beginning with six months after permit issuance. [A.A.C. R18-2-309.5.d]

## **VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS**

[A.A.C.R18-2-309.3]

- A.** Any document required to be submitted by this General Permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this part shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

## **IX. INSPECTION AND ENTRY**

[A.A.C.R18-2-309.4]

- A.** Upon presentation of credentials and other documents as may be required by law, Permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), to perform the following;
- B.** Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this General Permit;
- C.** Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of this General Permit;
- D.** Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this General Permit;
- E.** Sample or monitor at reasonable time, substances or parameters for the purpose of assuring compliance with the General Permit or other applicable requirements; and
- F.** Record any inspection by use of written, electronic, magnetic and photographic media.

## **X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD**

[A.A.C.R18-2-304.C]

- A.** If a source which has been issued ATO(s) becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, reapply for coverage under the General Permit demonstrating how the source will comply with the standard.

## **XI. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING**

- A. Excess Emissions Reporting** [A.A.C.R18-2-306.A.5.b, -306.E.3.d and -310]

1. Excess Emissions shall be reported as follows:

- a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:
    - i. Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from Condition XI.A.1.b. below.
    - ii. Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XI.A.1.a.i above
  - b. The report shall contain the following information:
    - i. Identity of each stack or other emission point where the excess emissions occurred;
    - ii. Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;
    - iii. Date, time and duration, or expected duration, of the excess emissions;
    - iv. Identity of the equipment from which the excess emissions emanated;
    - v. Nature and cause of such emissions;
    - vi. If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions; and
    - vii. Steps taken to limit the excess emissions. If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.
2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XI.A.1 above. [A.A.C. R18-2-310.01.C)]

**B. Permit Deviations Reporting**

[A.A.C. R18-2-306.A.5.b]

1. The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time the deviation occurred.

**C. Emergency Provision**

[A.A.C. R18-2-306.E]

1. An “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, that require immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if Condition XI.C.3 is met.
3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - a. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;
  - b. The permitted facility was being properly operated at the time;
  - c. During the period of the emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
  - d. The Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

**D. Compliance Schedule**

[ARS § 49-426(I)(5)]

1. For any excess emission or permit deviation that cannot be corrected within 72 hours, the Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

**E. Affirmative Defenses for Excess Emissions due to Malfunctions, Startup, and Shutdown**

[A.A.C. R18-2-310]

1. Applicability  
This condition establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:
  - a. Promulgated pursuant to Sections 111 or 112 of the Act;
  - b. Promulgated pursuant to Titles IV or VI of the Clean Air Act;
  - c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;
  - d. Contained in A.A.C. R18-2-715(F); or
  - e. Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5.
2. Affirmative Defense for Malfunctions  
Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are due to a malfunction, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of Condition XI.A and has demonstrated all of the following:
  - a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the Permittee;
  - b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
  - c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and

overtime were not utilized, the Permittee satisfactorily demonstrated that the measures were impracticable;

- d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
- e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
- f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;
- h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;
- i. All emissions monitoring systems were kept in operation if at all practicable; and
- j. The Permittee's actions in response to the excess emissions were documented by contemporaneous records.

3. Affirmative Defense for Startup and Shutdown

- a. Except as provided in Condition XI.E.3.b below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of Condition XI.A and has demonstrated all of the following:
  - i. The excess emissions could not have been prevented through careful and prudent planning and design;
  - ii. If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;
  - iii. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

- iv. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
  - v. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
  - vi. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;
  - vii. All emissions monitoring systems were kept in operation if at all practicable; and
  - viii. Contemporaneous records documented the Permittee's actions in response to the excess emissions.
- b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XI.E.2 above.
4. Affirmative Defense for Malfunctions during Scheduled Maintenance  
If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XI.E.2 above.
5. Demonstration of Reasonable and Practicable Measures  
For an affirmative defense under Condition XI.E.2 or XI.E.3 above, the Permittee shall demonstrate, through submission of the data and information required by Conditions XI.E and XI.A, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

## **XII. RECORD KEEPING REQUIREMENTS**

### **A. Monitoring Records**

[A.A.C. R18-2-306.A.4.a]

The Permittee shall keep records of all required monitoring information including, but not limited to, the following;

- 1. The date, place as defined in the permit, and time of sampling or measurements;
- 2. The date(s) analyses were performed;
- 3. The name of the company or entity that performed the analyses;
- 4. A description of the analytical techniques or methods used;
- 5. The results of such analyses; and

6. The operating conditions existing at the time of sampling or measurement.
- B.** The Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.
- C.** All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

### **XIII. REPORTING REQUIREMENTS**

[A.A.C. R18-2-306.A.5]

The Permittee shall submit the following reports:

- A.** Compliance certifications in accordance with Section VII.
- B.** Excess emissions, permit deviations, and emergency reports in accordance with Section XI.
- C.** Performance test results in accordance with Condition XVI.G.
- D.** Other reports required by any condition in Attachment “B”.

### **XIV. DUTY TO PROVIDE INFORMATION**

- A.** The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revoking the General Permit coverage, or to determine compliance with this General Permit. Upon request, the Permittee shall also furnish to the Director copies of records that the Permittee is required to keep under the General Permit. For information claimed confidential, the Permittee shall furnish an additional copy of such records directly to the Director along with a claim of confidentiality. [A.A.C. R18-2-306.A.8.e]
- B.** If the Permittee has failed to submit any relevant facts or if the Permittee has submitted incorrect information in a General Permit coverage application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. [A.A.C. R18-2-304.G]

### **XV. FACILITY CHANGE ALLOWED WITHOUT OBTAINING AN ATO OR INDIVIDUAL PERMIT**

[A.A.C. R18-2-317.02]

- A.** Except for a physical change or change in the method of operation at a Class II source subject to logging or notice requirements in Conditions XV.B and XV.C below, a change at a Class II source shall not be subject to revision, notice, or logging requirements under this Section.
- B.** The following changes may be made if the source keeps on site records of the changes according to Appendix 3 of the Arizona Administrative Code:



1. Implementing an alternative operating scenario, including raw material changes;
2. Changing process equipment (as long as the change does not require a new ATO), operating procedures, or making any other physical change if the permit requires the change to be logged;
3. Engaging in any new insignificant activity listed in A.A.C. R18-2-101.57.a through A.A.C. R18-2-101.57.i but not listed in the permit;
4. Replacing an item of air pollution control equipment listed in the permit with an identical (same model, different serial number) item. The Director may require verification of efficiency of the new equipment by performance tests; and
5. A change that results in a decrease in actual emissions if the source wants to claim credit for the decrease in determining whether the source has a net emissions increase for any purpose. The logged information shall include a description of the change that will produce the decrease in actual emissions. A decrease that has not been logged is creditable only if the decrease is quantifiable, enforceable, and otherwise qualifies as a creditable decrease.

**C.** The following changes may be made if the source provides written notice to the Department in advance of the change as provided below:

1. If allowed under the General Permit, replacing an item of air pollution control equipment listed in the permit with one that is not identical but that is substantially similar and has the same or better pollutant removal efficiency: 7 days. The Director may require verification of efficiency of the new equipment by performance tests;
2. If allowed under the General Permit, replacing an item of air pollution control equipment listed in the permit with one that is not substantially similar but that has the same or better efficiency: 30 days. The Director may require verification of efficiency of the new equipment by performance tests; and
3. A change that would trigger an applicable requirement that already exists in the permit: 30 days unless otherwise required by the applicable requirement.

**D.** For each change under Condition XV.C above, the written notice shall be by certified mail or hand delivery and shall be received by the Director the minimum amount of time in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided with less than required notice, but must be provided as far in advance of the change, or if advance notification is not practicable, as soon after the change as possible. The written notice shall include:

1. When the proposed change will occur,
2. A description of the change,
3. Any change in emissions of regulated air pollutants, and

4. Any permit term or condition that is no longer applicable as a result of the change.
- E.** The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate operating scenario under Condition XV.B.1.
- F.** If a source change is described under both Conditions XV.B and XV.C above, the source shall comply with Condition XV.C above.
- G.** A copy of all logs required under Condition XV.B shall be filed with the Director within 30 days after each anniversary of the permit issuance date. If no changes were made at the source requiring logging, a statement to that effect shall be filed instead.
- H. Logging Requirements**
  1. Each log entry required by a change under Condition XV.B shall include the following information:
    - a. A description of the change, including:
      - i. A description of any process change;
      - ii. A description of any equipment change, which does not require a new or revised ATO(s), including both old and new equipment descriptions, model numbers and serial numbers, or any other unique equipment number; and
      - iii. A description of any process material change.
    - b. The date and time that the change occurred,
    - c. The date the entry was made and the first and last name of the person making the entry.
  2. Logs shall be kept for 5 years from the date created. Logging shall be performed in indelible ink in a bound log book with sequentially numbered pages, or in any other form, including electronic format, approved by the Director.

## **XVI. TESTING REQUIREMENTS**

[A.A.C. R18-2-312]

- A.** The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.
- B. Operational Conditions During Performance Testing**

Tests shall be conducted during operation at the maximum possible capacity of each unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during periods of start-up,

shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions unless otherwise specified in the applicable standard.

- C. Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

**D. Test Plan**

At least 14 calendar days prior to performing a test, the Permittee shall submit a test plan to the Director in accordance with A.A.C. R18-2-312.B and the Arizona Testing Manual. This test plan must include the following:

1. Test duration;
2. Test location(s);
3. Test method(s); and
4. Source operation and other parameters that may affect the test result.

**E. Stack Sampling Facilities**

The Permittee shall provide or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;
2. Safe sampling platform(s);
3. Safe access to sampling platform(s); and
4. Utilities for sampling and testing equipment.

**F. Interpretation of Final Results**

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good

cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

**G. Report of Final Results**

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

**XVII. PROPERTY RIGHTS**

[A.A.C. R18-2-306.A.8.d]

This General Permit does not convey any property rights of any sort, or any exclusive privilege.

**XVIII. SEVERABILITY CLAUSE**

[A.A.C. R18-2-306.A.7]

The provisions of this General Permit are severable. In the event of a challenge to any portion of this General Permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

**XIX. PERMIT SHIELD**

[A.A.C. R18-2-325 and -508]

As of the date an ATO for a source is granted, compliance with the conditions of this General Permit shall be deemed compliance with all applicable requirements in effect on the date of General Permit issuance, provided that such applicable requirements are included and expressly identified in this permit. The permit shield shall not apply to any changes made pursuant to Sections XV of this Attachment.

**XX. ACCIDENTAL RELEASE PROGRAM**

[40 CFR 68]

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the time line specified in 40 CFR Part 68.

**AIR QUALITY CONTROL GENERAL PERMIT  
FOR BOILER(S)**

**ATTACHMENT “B”: SPECIFIC CONDITIONS**

**I. CONDITIONS FOR COVERAGE**

[A.A.C.R18-2-302.B, -306.01, -501 through -511]

- A.** This General Permit covers stationary sources which meet the requirements as laid out in the general permit application packet for boilers.
- B.** The stationary source is not located within Maricopa or Pinal counties.
- C.** The stationary source is not a major source as defined under A.A.C. R18-2-101.64 or required to take federally enforceable emission limitations and standards to avoid being a major source.
- D.** All boiler stacks are designed in such a way that they are above the buildings in the vicinity, are capable of discharging vertically and there are no obstructions to gas flow such as rain caps, except for hinged rain caps.

**II. BOILERS NOT SUBJECT TO NEW SOURCE PERFORMANCE STANDARDS (NON-NSPS BOILERS)**

**A. Applicability**

[A.A.C.R18-2-302.B and -724.A]

- 1. This Section is applicable to any boiler with a maximum firing capacity of 100 MMBtu per hour or less.
- 2. This Section is not applicable to any boiler covered under Section III.

**B. Fuel Limitation**

[A.A.C.R18-2-306.01]

- 1. Permittee shall burn only natural gas, liquefied petroleum gas (Butane or Propane), or diesel fuel in the boiler(s).

**C. Particulate Matter**

- 1. Emission Limitation

[A.A.C.R18-2-724.C.1]

[PCC 17.16.165.C.1]

- a. Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from any fuel-burning operation in excess of the amounts calculated by the following equation:

$$E = 1.02Q^{0.769}$$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

Q = the heat input in million Btu per hour.

2. Permit Shield

- a. Compliance with this Condition II.C shall be deemed compliance with A.A.C.R18-2-724.C.1. [A.A.C. R18-2-325]

**D. Opacity Standards**

1. Emission Limitations and Standards [A.A.C.R18-2-724.J]  
[PCC 17.16.165.J]

- a. Permittee shall not cause, allow or permit the opacity of any plume or effluent from any boiler to exceed 15 percent.

2. Monitoring, Recordkeeping and Reporting Requirements

- a. Permittee shall report all six-minute periods in which the opacity of any plume or effluent exceeds 15 percent. [A.A.C.R18-2-724.J]  
[PCC 17.16.165.J]

- b. Permittee shall operate boilers in accordance with vendor-supplied operations and maintenance instructions. If vendor-supplied operations and maintenance instructions are not available, Permittee shall prepare an Operations and Maintenance Plan which provides adequate information to properly operate and maintain the boiler in good working order. In the absence of vendor supplied operations and maintenance instructions, Permittee shall operate boilers in accordance with this Operation and Maintenance Plan. Permittee shall keep a log of all activities conducted pursuant to the vendor supplied instructions or the Operation and Maintenance Plan. [A.A.C.R18-2-306.A.3.-724.J]

- c. Permittee shall have on-site or on-call an employee or contractor who is a certified EPA Reference Method 9 observer. The observer shall conduct a monthly survey, of visible emissions emanating from the stack of the boiler(s). If the opacity of the emissions observed appears to exceed the standard, the observer shall conduct a certified EPA Reference Method 9 observation. The Permittee shall keep records of the initial survey and any EPA Reference Method 9 observations performed. These records shall include the emission point observed, location of observer, name of observer, date & time of observation, and the results of the observation. If the observation shows a Method 9 opacity reading in excess of 15%, the Permittee shall report this to ADEQ as an excess emission and initiate appropriate corrective action to reduce the opacity below 15%. The Permittee shall keep a record of the corrective action performed.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with this Condition II.D shall be deemed compliance with A.A.C.R18-2-724.J. [A.A.C. R18-2-325]

**E. Sulfur Dioxide**

1. Emissions Limitation

[A.A.C.R18-2-724.E and G]  
[PCC 17.16.165.E and 165.G]

- a. Permittee shall not cause, allow, or permit emissions of more than 1.0 pounds of sulfur dioxide per million Btu heat input. Permittee is prohibited from the use of high sulfur oil (fuel containing 0.90 percent or more by weight of sulfur).

2. Monitoring, Reporting and Record Keeping

- a. The Permittee shall keep records of fuel supplier certifications to demonstrate compliance with the sulfur content limit specified in the Condition II.E.1.a. above. The certification shall contain the information with regard to sulfur content and the method used to determine the sulfur content of fuel. These records shall be made available to the ADEQ inspector upon request.

3. Permit Shield

- a. Compliance with this Condition II.E shall be deemed compliance with A.A.C.R18-2-724.E and G. [A.A.C. R18-2-325]

**III. BOILER SUBJECT TO NEW SOURCE PERFORMANCE STANDARDS (NSPS)**

**A. Applicability**

1. Boilers with maximum firing capacities between 10 and 100 MMBtu/hr and commenced construction, modification, or reconstruction after June 9, 1989, are subject to the requirements of this Section. [40 C.F.R. §60.40c(a)]
2. Requirements of Section II of this Attachment are not applicable to boilers covered under Section III.

**B. Fuel**

[A.A.C. R18-2-306.01]

1. Type of Fuel

- a. Permittee shall burn only natural gas, liquefied petroleum gas, or diesel fuel in the boiler(s).

2. Monitoring & Recordkeeping

[40 C.F.R §60.48c(g)]

- a. Permittee shall record and maintain records of the amounts of each fuel combusted during each day for each boiler.

3. Permit Shield

- a. Compliance with this Condition III.B of this part shall be deemed compliance with 40 CFR §60.48c(g). [A.A.C. R18-2-325]

**C. Opacity Standard**

1. Emission Limitations and Standards

- a. When firing diesel fuel, the Permittee shall not cause, allow or permit the opacity of any plume or effluent from any boiler greater than 30MMBtu per hour to exceed 20 percent, except for one 6-minute period per hour of not more than 27 percent opacity. [40 C.F.R. §60.43c(c)]  
[Material permit conditions are indicated by underlines and italics]

- b. The opacity limit in Condition III.C.1.a applies at all times except during periods of start up, shut down, or malfunction. [40 C.F.R. §60.43c(d)]

2. Monitoring, Recordkeeping, and Reporting

- a. Permittee shall operate boiler(s) in accordance with vendor-supplied operations and maintenance instructions. If vendor-supplied operations and maintenance instructions are not available, Permittee shall prepare an Operation and Maintenance Plan which provides adequate information to properly operate and maintain the boiler(s) in good working order. In the absence of vendor-supplied operations and maintenance instructions, Permittee shall operate boiler(s) in accordance with this Operation and Maintenance Plan. Permittee shall keep a log of all activities conducted pursuant to the vendor supplied instructions or the Operation & Maintenance Plan. [A.A.C. R18-2-306.A.3.c]
- b. Permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the boiler(s). [40 C.F.R. §60.7(b)]

3. Testing

- a. Opacity shall be measured using EPA Reference Method 9 of 40 C.F.R.60 Appendix A shall be tested as follows: [40 C.F.R §60.45c(a).(8)]
- b. Initial Performance Test – NSPS Boiler(s) greater than 30 MMBtu/hr which fire diesel fuel.
- i. Test method and procedures [40 C.F.R §60.45c(a).(8)]
- (a) For the purposes of determining initial compliance with the applicable opacity limits in Section III.C.1 above, the owner or operator shall conduct or cause to be conducted the tests and procedures set forth in EPA Reference Method 9. 6-minute average of 24 observations shall be used for determining the opacity of stack emissions.



ii. Time Period [40 C.F.R §60.8(a)]

- (a) Opacity observations shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup of the facility.

4. Permit Shield

- a. Compliance with this Condition III.C shall be deemed compliance with 40 C.F.R. §60.43c(c) and §60.43c(d), §60.7(b), §60.8(a), and §60.45c(a).8. [A.A.C. R18-2-325]

**D. Limitation on Sulfur Content of Fuel**

1. Emission Limitations and Standards

- a. When firing diesel fuel, Permittee shall burn only diesel fuel containing equal to or less than 0.5 percent by weight sulfur, as determined on a 30-day rolling average basis. [40 C.F.R. §60.42c(d) and §60.42c(g)]
- b. The sulfur content limit in Condition III.D.1.a applies at all times except during periods of start up, shut down, or malfunction. [40 C.F.R. §60.42c(i)]

2. Monitoring, Record Keeping and Reporting

- a. Permittee shall submit semi-annual reports to the Director, postmarked by the 30th day following the end of the reporting period. The report shall include verification of receipt of fuel supplier certifications, name of the oil supplier and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil, as well as a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. [40 C.F.R §60.48c(e)(11), §60.48c(f)(1), and §60.48c(j)]

3. Permit Shield

Compliance with this Condition III.D shall be deemed compliance with 40 C.F.R. §60.42c(d), §60.42c(g) and C.F.R. §60.42c(i), §60.48c(e)(11), §60.48c(e)(11), §60.48c(f)(1) and §60.48c(f)(1). [A.A.C. R18-2-325]

**E. New Source Reporting**

[40 C.F.R. §60.7(a) and §60.48c(a)]

1. Permittee shall provide the following notifications to ADEQ for all boilers subject to construction, reconstruction or modification, as those terms are defined in 40 C.F.R. Sections 60.2, 60.14 and 60.15, during the term of this permit:
- a. Design heat input of the boiler, identification of fuels to be combusted in the boiler(s), the annual capacity factor at which the Permittee anticipates operating the boiler(s) based on all fuels fired and based on each individual fuel fired.

- b. Date of construction commencement – postmarked no later than 30 days after such date.
- c. Date of anticipated start-up – postmarked not more than 60 days or less than 30 days prior to such date.
- d. Date of actual start-up – postmarked within 15 days after such date.

#### **IV. INTERNAL COMBUSTION ENGINE(S)**

[A.A.C. R18-2-302.B.2.b.iv and -719.A and B]

##### **A. Fuel Limitations**

- 1. Permittee shall only burn natural gas, liquefied petroleum gas, or diesel fuel in the internal combustion engine(s). [A.A.C. R18-2-306.A.2, and -306.01]
- 2. The Permittee shall maintain copies of fuel supplier certifications which verify that the sulfur content of the fuel is less than the limit specified in Condition IV.D.2.a.v for generators marked as subject to NSPS on the associated ATO or Condition IV.E.3.a.ii for generators marked as not subject to NSPS on the associated ATO. [A.A.C. R18-2-306.A.3.c]

##### **B. Limitation on Hours of Operation**

- 1. Hours of Operation [A.A.C. R18-2-306.01]  
[Material permit conditions are indicated by underlines and italics]
  - a. Operation of emergency power internal combustion engine(s) is limited to five hundred (500) hours each in any twelve month rolling period. Operating hours shall be defined as the actual cumulative time a process or component of the plant was in use.
- 2. Monitoring, Record Keeping, and Reporting [A.A.C. R18-2-306.A.3.c]
  - a. Permittee shall maintain a log which includes actual hours of operation of each internal combustion engine(s).

##### **C. Limitation on Cumulative Size**

[A.A.C. R18-2-306.01]

[Material permit conditions are indicated by underlines and italics]

- 1. The total cumulative horsepower of all internal combustion engine(s) shall be limited to 750 hp.

##### **D. Compression Ignition Engines Subject To NSPS**

- 1. Applicability

This Section applies to compression ignition engines marked as subject to NSPS on the associated ATO.

## 2. General Requirements

### a. Operating Requirements

- i. The Permittee shall operate and maintain the engine according to the manufacturer's written instructions or procedures developed by the Permittee that are approved by the engine manufacturer. A copy of the instructions or procedures shall be kept onsite and made available to ADEQ upon request.[40 CFR 60.4211(a) and A.A.C. R18-2-306.A.3]
- ii. The Permittee shall only change those engine settings that are permitted by the manufacturer. [40 CFR 60.4211(a)]
- iii. The Permittee shall meet the requirements of 40 CFR parts 89, 94, or 1068, as they apply. [40 CFR 60.4211(a)]
- iv. The Permittee shall operate and maintain the internal combustion engine according to the manufacturer's written instructions or procedures developed by the Permittee that are approved by the engine manufacturer over the entire life of the engine. [40 CFR 60.4206]

### v. Fuel Requirements

- (a) After October 1, 2007, an engine that uses diesel fuel, shall use diesel fuel that meets the following requirements of 40 CFR 80.510(a):
  - (i) Sulfur content: 500 parts per million (ppm) maximum; and
  - (ii) A minimum cetane index of 40 or a maximum aromatic content of 35 volume percent. [40 CFR 60.4207(a)]
- (b) After October 1, 2010, an engine that uses diesel fuel and has a displacement of less than 30 liters per cylinder, shall use diesel fuel that meets the following requirements of 40 CFR 80.510(b):
  - (i) Sulfur content: 15 ppm maximum; and
  - (ii) A minimum cetane index of 40 or a maximum aromatic content of 35 volume percent. 40 CFR 60.4207(b)]

### vi. Additional Emergency Engine Requirements

[40 CFR 60.4211(e), 60.4209(a), A.A.C. R18-2-306.A.3.c, -306.A.4, and 331.A.3.c]

[Material permit conditions are indicated by underline and italics]

- (a) The Permittee shall install a non-resettable hour meter prior to startup of the engine.
- (b) Emergency internal combustion engines may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine.
- (c) The Permittee shall not operate the emergency engine for the purposes of maintenance checks and readiness testing for more than 100 hours per year unless the Permittee maintains records identifying the Federal, State, or local standards that require maintenance and testing of emergency internal combustion engines beyond 100 hours per year. Copies of such records shall be provided to ADEQ upon request.
- (d) The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per year.
- (e) The Permittee shall not operate emergency engines except for emergency purposes, and maintenance and testing-
- (f) The Permittee shall maintain monthly records of engine operation. The records shall include the purpose of operation and the duration of time the engine was operated. The record shall identify whenever the operation of the engine was for emergency purposes.

b. Emission Limitations and Standards

i. Emergency Engines

2007 model year and later emergency internal combustion engines with a displacement of less than 30 liters per cylinder that are not fire pump engines shall comply with the appropriate emission limitation as follows: [40 CFR 60.4205(b)]

- (a) 2007 model year and later engines with a maximum engine power less than or equal to 3,000 horsepower and a displacement of less than 10 liters per cylinder shall meet the emission standards specified below: [40 CFR 60.4202(a)]

(i) For engines with a maximum engine power less than 50 horsepower:

(a) 2007 model year engines shall meet the emission standards for new nonroad compression ignition engines in 40 CFR 89.112 and 40 CFR 89.113, for all pollutants, for the same model year and maximum engine power, and

(b) 2008 model year and later engines shall meet the emission standards for new nonroad compression ignition engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and Table 2 to 40 CFR part 60, subpart III.

[40 CFR 60.4202(a)(1)]

(ii) 2007 model year and later engines, with a maximum engine power greater than or equal to 50 horsepower, shall meet the emission standards for new nonroad compression ignition engines in 40 CFR 89.112 and 40 CFR 89.113, for all pollutants, for the same model year and maximum engine power. [40 CFR 60.4202(a)(2)]

(b) 2007 model year and later engines with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder shall meet the emission standards for new marine compression ignition engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power.

[40 CFR 60.4202(c)]

c. Monitoring and Record Keeping Requirements

i. The Permittee of a 2007 model year and later internal combustion engine that is required to comply with the emission standards specified in Condition IV.D.2.b.i., shall comply by purchasing an engine certified to the emission standards in Condition IV.D.2.b., as applicable, for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's specifications.

[40 CFR 4211(c)]

ii. The Permittee of a fire pump engine that is manufactured during or after the model year that applies to the fire pump engine power (EP) rating in the following table and is required to comply with the emission standards specified in Conditions IV.D.3.a.ii., IV.D.4.a.ii., and IV.D.5.a.ii. shall comply by purchasing an engine certified to the emission standards in Conditions IV.D.3.a.ii., IV.D.4.a.ii., and IV.D.5.a.ii., as

applicable, for the same model year and National Fire Protection Association (NFPA) nameplate engine power. The engine shall be installed and configured according to the manufacturer's specifications.

<b>Engine Power (EP) (horsepower)</b>	<b>Model Year</b>
EP<100	2011
100≤EP<175	2010
175≤EP<750	2009
EP≥750	2008

[40 CFR 4211(c)]

iii. The Permittee of a pre-2007 model year stationary compression ignition internal combustion engine that is required to comply with the emission standards specified in Conditions IV.D.3.a.i, IV.D.4.a.i, IV.D.4.a.iii, IV.D.5.a.i and IV.D.6.a.i., shall demonstrate compliance according to one of the methods specified below:

- (a) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's specifications.
- (b) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test shall have been conducted using the methods specified in this 40 CFR 60.4212 or 4213, and the methods shall have been followed correctly.
- (c) Keeping records of engine manufacturer data indicating compliance with the standards.
- (d) Keeping records of control device vendor data indicating compliance with the standards.
- (e) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 40 CFR 60.4212, as applicable.

[40 CFR 60.4211(b)]

iv. A fire pump engine that is manufactured prior to the model years specified in Condition IV.D.2.c.ii. and is required to comply with

the emissions standards specified in Conditions IV.D.3.a.ii., IV.D.4.a.ii., and IV.D.5.a.ii shall demonstrate compliance according to one of the methods specified in Condition IV.D.2.c.iii.(a) through IV.D.2.c.iii.(e).

[40 CFR 60.4211(b)]

- v. An internal combustion engine that is required to comply with the emission standards specified in Conditions IV.D.3.a.iii. or IV.D.4.a.iii. shall demonstrate compliance according to the requirements specified below:

- (a) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in 40 CFR 60.4213.

- (b) For engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in 40 CFR 60.4213.

[40 CFR 60.4211(d)]

- vi. The Permittee shall maintain a copy of engine certifications or other documentation demonstrating that each engine complies with the applicable standards in this Permit, and shall make the documentation available to ADEQ upon request.

[A.A.C. R18-2-306.A.4]

- d. Testing Requirements

[40 CFR 60.4212 and 60.4213]

- i. The Permittee of an internal combustion engine with a displacement of less than 30 liters per cylinder that conducts performance tests pursuant to this Permit shall do so according to 40 CFR 60.4212.

- ii. The Permittee of an internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder shall conduct performance tests according to 40 CFR 60.4213.

- e. Permit Shield

[A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 60.4202(a) and (c), 60.4205(b), 60.4206, 60.4207(a) and (b), 60.4209(a), 60.4211(a), (b), (c), (d) and (e), 60.4212, and 60.4213.

- 3. Particulate Matter

- a. Emissions Limitations and Standards

- i. Pre-2007 model year engines with a displacement of less than 10 liters per cylinder shall meet the following particulate matter emission standards:

<b>Maximum Engine Power (EP) (horsepower)</b>	<b>Emissions Limit (grams/horsepower-hour)</b>
EP<11	0.75
11≤EP<50	0.60
50≤EP<175	N/A
EP≥175	0.40

[40 CFR 60.4204(a) and 60.4205(a)]

- ii. Fire pump engines with a displacement of less than 30 liters per cylinder shall meet the following particulate matter emission standards:

<b>Maximum Engine Power (EP) (horsepower)</b>	<b>Model year</b>	<b>Emissions Limit (grams/horsepower-hour)</b>
EP<11	2010 and earlier	0.75
	2011 and later	0.30
11≤EP<25	2010 and earlier	0.60
	2011 and later	0.30
25≤EP<50	2010 and earlier	0.60
	2011 and later	0.22
50≤EP<75	2010 and earlier	0.60
	2011 and later	0.30
75≤EP<100	2010 and earlier	0.60
	2011 and later	0.30
100≤EP<175	2009 and earlier	0.60
	2010 and later	0.22
175≤EP<300	2008 and earlier	0.40
	2010 and later	0.15
300≤EP<600	2008 and earlier	0.40
	2009 and later	0.15



600≤EP<750	2008 and earlier	0.40
	2009 and later	0.15
EP≥750	2007 and earlier	0.40
	2008 and later	0.15

[40 CFR 60. 4205(c)]

- (a) For model years 2011 through 2013, fire pump engines that are greater than 50 horsepower, but less than 100 horsepower with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

[Note 1 to Table 4 to 40 CFR Subpart IIII]

- (b) For model years 2010 through 2012, fire pump engines that are greater than 100 horsepower, but less than 175 horsepower with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines. [Note 2 to Table 4 to 40 CFR Subpart IIII]

- iii. Engines with a displacement of greater than 30 liters per cylinder shall meet the following emission standards:

- (a) Reduce PM emissions by 60% or more; or
- (b) Limit the emissions of PM in the engine exhaust to 0.11 grams per horsepower-hour

[40 CFR 60.4204(c)(2) and 60.4205(d)(2)]

b. Monitoring and Record Keeping Requirements

- i. The Permittee shall operate and maintain the control device according to the manufacturer's written instructions or procedures that are developed by the Permittee and approved by the engine manufacturer. A copy of the instructions or procedures shall be kept onsite and made available to ADEQ upon request. [40 CFR 60.4211(a) and A.A.C. R18-2-306.A.3]
- ii. If the internal combustion engine is equipped with a diesel particulate filter, the Permittee shall keep records of any corrective action taken after the backpressure monitor has notified the Permittee that the high backpressure limit of the engine is approached. [40 CFR 60.4214(c)]
- iii. If the Permittee elects to meet the emission limitations contained in Condition IV.D.3.a.ii.(a) or (b), the Permittee shall maintain records, including manufacturer specifications, demonstrating that the engine meets the horsepower and RPM specifications. [A.A.C. R18-2-306.A.4]

c. Permit Shield

[A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 60.4204(a), 60.4204(c)(2), 60.4205(a), 60.4205(c), and 60.4205(d)(2).

4. Nitrogen Oxides

a. Emissions Limitations and Standards

- i. Pre-2007 model year internal combustion engines, that are not fire pump engines, that have a displacement of less than 10 liters per cylinder shall meet the following emission standards:

Maximum Engine Power (EP) (horsepower)	Emissions Limit (grams/horsepower-hour)
EP<11	7.8*
11≤EP <50	7.1*
EP≥50	6.9

\* indicates nonmethane hydrocarbons (NMHC)+NO<sub>x</sub>

[40 CFR 60.4204(a) and 60.4205(a)]

- ii. Fire pump engines that have a displacement of less than 30 liters per cylinder shall meet the following emission standards:

Maximum Engine Power (EP) (horsepower)	Model year	Emissions Limit* (grams/horsepower-hour)
EP<11	2010 and earlier	7.8
	2011 and later	5.6
11≤EP <25	2010 and earlier	7.1
	2011 and later	5.6
25≤EP <50	2010 and earlier	7.1
	2011 and later	5.6
50≤EP <75	2010 and earlier	7.8
	2011 and later	3.5
75≤EP <100	2010 and earlier	7.8
	2011 and later	3.5

100≤EP <175	2009 and earlier	7.8
	2010 and later	3.0
175≤EP <300	2008 and earlier	7.8
	2010 and later	3.0
300≤EP <600	2008 and earlier	7.8
	2009 and later	3.0
600≤EP <750	2008 and earlier	7.8
	2009 and later	3.0
EP≥750	2007 and earlier	7.8
	2008 and later	4.8

\* indicates NMHC+NO<sub>x</sub>

[40 CFR 60. 4205(c)]

- (a) For model years 2011 through 2013, fire pump engines that are greater than 50 horsepower, but less than 100 horsepower with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.  
[Note 1 to Table 4 to 40 CFR Subpart IIII]
  - (b) For model years 2010 through 2012, fire pump engines that are greater than 100 horsepower, but less than 175 horsepower with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines. [Note 2 to Table 4 to 40 CFR Subpart IIII]
- iii. Pre-2007 model year internal combustion engines that have a displacement of greater than 10 liters per cylinder but less than 30 liters per cylinder that are not fire pump engines shall comply with the emission standards in 40 CFR 94.8(a)(1) as follows:  
[40 CFR 60.4204(a) and 60.4205(a)]
  - (a) 17.0 g/kW-hr when the maximum test speed is less than 130 rpm.
  - (b)  $45.0 \times N^{-0.20}$  g/kW-hr when the maximum test speed is at least 130 but less than 2000 rpm, where N is the maximum test speed of the engine in revolutions per minute.
  - (c) 9.8 g/kW-hr when the maximum test speed is 2000 rpm or more.
  - (d) All speed-dependent standards in this Part shall be rounded to the nearest 0.1 g/kW-hr

iv. Internal combustion engines with a displacement of greater than 30 liters per cylinder shall meet the following emission standards:

(a) Reduce NO<sub>x</sub> emissions by 90% or more; or

(b) Limit the emissions of NO<sub>x</sub> in the engine exhaust to 1.2 grams per horsepower-hour

[40 CFR 60.4204(c)(1) and 60.4205(d)(1)]

v. If the Permittee elects to meet the emission limitations contained in Condition IV.D.4.a.ii.(a) or (b), the Permittee shall maintain records, including manufacturer specifications, demonstrating that the engine meets the horsepower and RPM specifications.

[A.A.C. R18-2-306.A.4]

b. Permit Shield

[A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 60.4204(a), 60.4204(c)(1), 60.4205(a), 60.4205(c), and 60.4205(d)(1).

## 5. Carbon Monoxide

a. Emissions Limitations and Standards

i. Pre-2007 model year internal combustion engines with a displacement of less than 10 liters per cylinder shall meet the following emission standards:

<b>Maximum Engine Power (EP) (horsepower)</b>	<b>Emissions Limit (grams/horsepower- hour)</b>
EP<11	6.0
11≤EP<25	4.9
25≤EP<50	4.1
50≤EP<175	N/A
EP≥175	8.5

[40 CFR 60.4204(a) and 60.4205(a)]

ii. Fire pump engines that have a displacement of less than 30 liters per cylinder shall meet the following emission standards:

<b>Maximum Engine Power (EP) (horsepower)</b>	<b>Model year</b>	<b>Emissions Limit* (grams/horsepower- hour)</b>
EP<11	2010 and earlier	6.0
	2011 and later	N/A
11≤EP<25	2010 and earlier	4.9
	2011 and later	N/A
25≤EP<50	2010 and earlier	4.1
	2011 and later	N/A
50≤EP<75	2010 and earlier	3.7
	2011 and later	N/A
75≤EP<100	2010 and earlier	3.7
	2011 and later	N/A
100≤EP<175	2009 and earlier	3.7
	2010 and later	N/A
175≤EP<300	2008 and earlier	2.6
	2010 and later	N/A
300≤EP<600	2008 and earlier	2.6
	2009 and later	N/A
600≤EP<750	2008 and earlier	2.6
	2009 and later	N/A
EP≥750	2007 and earlier	2.6
	2008 and later	N/A

[40 CFR 60. 4205(c)]

b. Permit Shield

[A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 60.4204(a), 60.4205(a) and 60.4205(c).

6. Hydrocarbon

a. Emissions Limitations and Standards

- i. Pre-2007 model year internal combustion engines that have a displacement of less than 10 liters per cylinder and a maximum engine power rating greater than or equal to 175 horsepower shall not emit more than 1.0 gram of hydrocarbons per

horsepower hour.

[40 CFR 60.4204(a) and 60.4205(a)]

b. Permit Shield

[A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 60.4204(a) and 60.4205(a).

**E. GENERATORS NOT SUBJECT TO NSPS**

1. Applicability

This Section applies to internal combustion engines marked as not subject to NSPS on the associated ATO.

2. Particulate Matter and Opacity

a. Emission Limitations and Standards

[A.A.C. R18-2-719.B, -719.C.1, and -719.E]

[Material permit conditions are indicated by underline and italics]

- i. The Permittee shall not cause or allow to be discharged into the atmosphere from the generator stack(s) particulate matter in excess of the amount calculated by the following equation:

$$E = 1.02 Q^{0.769}$$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

Q = the heat input in million Btu per hour

- ii. For the purposes of the calculations required in Condition IV.E.2.a.i. above, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The total heat input of all operating fuel-burning units at a plant or premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

iii. Opacity

[A.A.C. R18-2-719.E]

- (a) The Permittee shall not cause, allow or permit to be emitted into the atmosphere from any stationary rotating machinery, smoke for any period greater than 10 consecutive seconds which exceeds 40% opacity.
- (b) Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

- b. Monitoring and Recordkeeping [A.A.C. R18-2-306.A.3.c.]
- i. Permittee shall have on-site or on-call an employee or contractor who is a certified EPA Reference Method 9 observer. The observer shall conduct a monthly survey, of visible emissions emanating from the stack of the generator(s). If the opacity of the emissions observed appears to exceed the standard, the observer shall conduct a certified EPA Reference Method 9 observation. The Permittee shall keep records of the initial survey and any EPA Reference Method 9 observations performed. These records shall include the emission point observed, location of observer, name of observer, date & time of observation, and the results of the observation. If the observation shows a Method 9 opacity reading in excess of 40%, the Permittee shall report this to ADEQ as an excess emission and initiate appropriate corrective action to reduce the opacity below 40%. The Permittee shall keep a record of the corrective action performed. [A.A.C. R18-2-306.A.3.c.]
- ii. The Permittee shall keep records of fuel supplier certifications. The certification shall contain information regarding the name of fuel supplier and lower heating value of the fuel. These records shall be made available to ADEQ upon request
- c. Testing Requirement
- The Permittee shall conduct performance tests at such times as may be required by the Director.
- d. Permit Shield [A.A.C. R18-2-325]
- Compliance with this Part shall be deemed compliance with A.A.C. R18-2-719.C.1 and-719.E.

### 3. Sulfur Dioxide

- a. Emission Limitations and Standards
- i. The Permittee shall not emit or cause to emit more than 1.0 pound of sulfur dioxide per million Btu heat input. [A.A.C. R18-2-719.F]
- ii. The Permittee shall not burn high sulfur diesel fuel (sulfur content greater than 0.9 % by weight) in the generator(s). [A.A.C. R18-2-719.H]
- b. Monitoring, Recordkeeping, and Reporting
- i. The Permittee shall keep daily records of the sulfur content and lower heating value of the fuel being fired in the generator(s). The Permittee shall keep records of fuel supplier certifications to

demonstrate compliance with the sulfur content limit specified in this Condition IV.E.3.a.ii The certification shall contain the sulfur content of the fuel and the method used to determine the sulfur content of the fuel. These records shall be made available to ADEQ upon request. [A.A.C. R18-2-306.A.3.c and -719.I]

- ii. The Permittee shall report to the Director any daily period during which the sulfur content of the fuel being fired in the machine exceeds 0.8%. [A.A.C. R18-2-719.J]

- c. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-719.F, -719.H, -719.I, and -719.J.

## **V. ADDITIONAL REQUIREMENTS FOR SOURCES OPERATING IN PIMA COUNTY**

- A. In accordance with A.R.S §49-480.A, the board of supervisors may adopt a program which shall include provisions for administration, inspection and enforcement of General Permits issued pursuant to A.R.S. §49-426, subsection H. The Permittee shall abide by all conditions of this General Permit while operating in Pima County.

- B. The numerical section references to the Pima County Code (PCC) are specifically applicable to Pima County standards for those sources operating in Pima County under this permit. (In the event that these rules are revised to change the numerical references during the term of this Permit, the revised numbering system will apply to this permit.)

- 1. Odor Limiting Standards [P.C.C. §§ 17.16.030]

- a. No person shall emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

[Ord. 1996-50 § 2, 1996; Ord. 1994-83 § 48, 1994; Ord. 1993-128 § 4 (part), 1993; Ord. 1979-93 (part), 1979]

- 2. Opacity Standards [P.C.C. 17.16.040]

- a. No person shall cause or permit the effluent from a single emission point, multiple emission points, or fugitive emissions sources to have an average optical density equal to or greater than the opacity limiting standards specified in TABLE: 1 below, or as otherwise specified in this permit, subject to the following provisions:

- i. Opacities (optical densities), as measured in accordance with EPA Reference Method 9, of an effluent shall be measured by a certified visible emissions evaluator with his natural eyes, approximately following the procedures which were used during his certification, or by an approved and precisely calibrated in-stack monitoring instrument.



- ii. A violation of an opacity standard shall be determined by measuring and recording a set of consecutive, instantaneous opacities, and calculating the arithmetic average of the measurements within the set unless otherwise noted herein. The measurements shall be made at approximately fifteen second intervals for a period of at least six minutes, and the number of required measurements shall be as specified in TABLE: 1 below. Sets need not be consecutive in time, and in no case shall two sets overlap. If the average opacity of the set of instantaneous measurements exceeds the maximum allowed by any rule, this shall constitute a violation.
    - iii. The use of air or other gaseous diluents solely for the purpose of achieving compliance with an opacity standard is prohibited.
  - b. When the presence of uncombined water is the only reason for failure of a source to otherwise meet the requirements of this article, this article shall not apply. [Ord. 1993-128 § 4, 1993; Ord. 1979-93 (part), 1979]

**TABLE : 1: EMISSIONS-DISCHARGE OPACITY LIMITING STANDARDS**

Type of Source	Instantaneous Opacity Measurements			Max. Allowable Average Opacity, %
	Required No. (for a set)	Excluded No. (highest values)	No. to Use For Averaging	
Cold Diesel Engines <sup>1</sup>	25	0	25	60
Loaded Diesel Engines <sup>2</sup>	26	1	25	60
Other Sources <sup>3</sup>	25	0	25	40
1 2 3	Applicable to the first 10 consecutive minutes after starting up a diesel engine Applicable to a diesel engine being accelerated under load Any source not otherwise specifically covered within this table [Ord. 1993-128 § 4, 1993; Ord. 1979-93 (part), 1979]			

- 3. Visibility Limiting Standard [P.C.C. §§ 17.16.050.D]
  - a. No person shall cause, suffer, allow or permit diffusion of visible emissions, including fugitive dust, beyond the property boundary line within which the emissions become airborne, without taking all reasonably necessary and feasible precautions to control generation of airborne particulate matter. Sources may be required to cease temporarily the activity or operation which is causing or contributing to the emissions until reasonably necessary and feasible precautions are taken.

- b. This subsection shall not apply when wind speeds exceed twenty-five (25) miles per hour (using the Beaufort Scale of Wind-Speed Equivalents, or as recorded by the National Weather Service). This exception does not apply if control measures have not been taken or were not commensurate with the size or scope of the emission source.